

Rynite® 415HP BK503

THERMOPLASTIC POLYESTER RESIN

Common features of Rynite® thermoplastic polyester include mechanical and physical properties such as excellent balance of strength and stiffness, dimensional stability, creep resistance, heat resistance, high surface gloss and good inherent electrical properties at elevated temperature. It can be processed over a broad temperature range and has excellent flow properties.

Rynite® thermoplastic polyester resins are typically used in demanding applications in the automotive, electrical and electronics, appliances where they successfully replace metals and thermosets, as well as other thermoplastic polymers.

Rynite® 415HP BK503 is a 15% glass reinforced, toughened modified polyethylene terephthalate resin improved for easy, fast processing over a broad moulding range.

Product information

Resin Identification	PET-IGF15	ISO 1043
Part Marking Code	>PET-IGF15<	ISO 11469

Typical mechanical properties

Tensile modulus	4500 MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	80 MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	5 %	ISO 527-1/-2
Flexural modulus	4000 MPa	ISO 178
Charpy impact strength, 23°C	55 kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	11 kJ/m ²	ISO 179/1eA
Izod notched impact strength, 23°C	11 kJ/m ²	ISO 180/1A
Poisson's ratio	0.36	

Thermal properties

Melting temperature, 10°C/min	250 °C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	190 °C	ISO 75-1/-2
RTI, electrical, 0.75mm	140 °C	UL 746B
RTI, electrical, 1.5mm	140 °C	UL 746B
RTI, electrical, 3.0mm	140 °C	UL 746B
RTI, impact, 0.75mm	120 °C	UL 746B
RTI, impact, 1.5mm	120 °C	UL 746B
RTI, impact, 3.0mm	120 °C	UL 746B
RTI, strength, 0.75mm	140 °C	UL 746B
RTI, strength, 1.5mm	140 °C	UL 746B
RTI, strength, 3.0mm	140 °C	UL 746B

Flammability

Burning Behav. at 1.5mm nom. thickn.	HB class	IEC 60695-11-10
Thickness tested	1.5 mm	IEC 60695-11-10
UL recognition	yes	UL 94
Burning Behav. at thickness h	HB class	IEC 60695-11-10
Thickness tested	0.75 mm	IEC 60695-11-10
UL recognition	yes	UL 94
Glow Wire Flammability Index, 0.75mm	675 °C	IEC 60695-2-12
Glow Wire Flammability Index, 1.0mm	675 °C	IEC 60695-2-12
Glow Wire Flammability Index, 1.5mm	675 °C	IEC 60695-2-12

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Additional information

Injection molding

PREPROCESSING

Drying recommended = Yes
Drying temperature = 120 °C
Drying time, dehumidified dryer = 4 h

Processing moisture content ≤ 0.02 %
At levels above 0.02%, strength and toughness will decrease, even though parts may not exhibit surface defects.

PROCESSING

Melt temperature optimum = 285 °C
Melt temperature range = 280-300 °C

Mold temperature range = 75-95 °C (6mm - 1mm thickness)
When lower mold temperatures are used, the initial shrinkage and warpage will be lower, but the surface appearance may be poorer and the dimensional change may be greater when the parts are subsequently heated.

Automotive

OEM
Stellantis - Chrysler

STANDARD
MS.50103 / CPN-3519

ADDITIONAL INFORMATION
Black